In the Claims

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

1. (Currently Amended) An electrical connector comprising:

an electrically conductive material; and

a non-electroplated coating ~~to be applied to~~ formed on at least a portion of the ~~an~~ electrically conductive material, said coating ~~being non-electroplated,~~ consisting of ~~more than 2.0~~ 3.0 wt% to about 20 wt% silver and the balance tin, said coating having a melting point greater than 225°C, a thickness in the range of from 0.00001" to 0.001", and a nanoindentation hardness in the range of from 0.32 to 0.41 GPa.

2. (Currently Amended) An electrical connector ~~coating~~ according to claim 1, wherein said silver content in said coating is in the range of from ~~2.0~~ 3.0 wt% to 15 wt%.

3. (Original) An electrical connector ~~coating~~ according to claim 1, wherein said silver content in said coating is in the range of from 3.0 wt% to 10 wt%.

4-6. (Cancelled)

7. (Currently Amended) An electrical connector comprising:

an electrically conductive material; and

a non-electroplated coating ~~to be applied to~~ formed on at least a portion of the ~~an~~ electrically conductive material, the coating ~~material~~ consisting of more than 3.0 wt% to 20 wt% silver, at least one addition selected from the group consisting of ~~bismuth,~~ silicon, magnesium, iron, manganese, zinc, and antimony in an amount effective to increase coating hardness up to 5.0 wt%, and the balance tin, said coating ~~material being non-electroplated~~ having a melting point greater than 225°C, a thickness in the range of from 0.00001" to 0.001", and having a nanoindentation hardness in the range of from 0.32 GPa to 0.41 GPa.

8. (Currently Amended) An electrical connector ~~coating material~~ according to claim 7, wherein said silver content of said coating ~~material~~ is in the range of from ~~2.0~~ 3.0 wt% to 15 wt%.

9. (Currently Amended) An electrical connector ~~coating material~~ according to claim 7, wherein said silver content of said coating ~~material~~ is in the range of from 3.0 wt% to 10 wt%.

10. (Currently Amended) An electrical connector ~~coating material~~ according to claim 7, wherein said at least one addition is present in an amount which does not cause the formation of deleterious oxides.

11. (Currently Amended) An electrical connector ~~coating material~~ according to claim 10, wherein said at least one addition is present in an amount ranging from 0.1 wt% to said amount which does not cause the formation of deleterious oxides.

12-14. (Cancelled)

15. (Currently Amended) An electrical connector ~~composite~~ comprising:

an electrically conductive substrate material; and

a non-electroplated layer of coating material on at least a portion of said substrate material and said coating material consisting of ~~2.0~~ 3.0 wt% to ~~about~~ 20 wt% silver, copper in a range from 2.5 wt% to 5.0 wt%, and the balance tin, said coating material having a melting point greater than 225°C, a thickness in the range of from 0.00001" to 0.001", and having a nanoindentation hardness in the range of from 0.32 to 0.41 GPa.

16. (Currently Amended) An electrical connector ~~composite~~ according to claim 15, wherein said silver content of said coating material is in the range of from ~~2.0~~ 3.0 wt% to 15 wt%.

17. (Currently Amended) An electrical connector ~~composite~~ according to claim 15, wherein said silver content of said coating material is in the range of from 3.0 wt% to 10 wt%.

18. (Currently Amended) An electrical connector ~~composite~~ according to claim 15, wherein said substrate material comprises a non-ferrous based material.

19. (Currently Amended) An electrical connector ~~composite~~ according to claim 15, wherein said substrate material comprises a copper-tellurium alloy.

20. (Currently Amended) An electrical connector ~~composite~~ according to claim 15, wherein said coating material directly contacts a surface of said substrate material.

21-24. (Cancelled)

25. (Currently Amended) An electrical connector ~~composite~~ comprising:

an electrically conductive substrate material; and

a non-electroplated layer of coating material over at least a portion of said substrate material, and said coating material consisting of ~~2.0~~ 3.0 wt% to 20 wt% silver, at least one addition selected from the group consisting of bismuth, silicon, copper, magnesium, iron, nickel, manganese, zinc, and antimony in an amount effective to increase coating hardness up to 5.0 wt%, and the balance tin, and said coating material ~~being non-electroplated and~~ having a melting point greater than 225°C, a thickness in the range of from 0.00001" to 0.001", and a nanoindentation hardness in the range of from 0.32 GPa to 0.41 GPa.

26. (Currently Amended) An electrical connector ~~composite~~ according to claim 25, wherein said silver is present in an amount from 2.0 wt% to 15 wt%.

27. (Currently Amended) An electrical connector ~~composite~~ according to claim 25, wherein said silver is present in an amount from 3.0 wt% to 15 wt%.

28. (Currently Amended) An electrical connector ~~composite~~ according to claim 25, wherein said substrate material is formed from a non-ferrous based material.

29. (Currently Amended) An electrical connector ~~composite~~ according to claim 25, wherein said substrate material is formed from a copper-tellurium alloy.

30 -32. (Cancelled)

33. (Currently Amended) An electrical connector ~~composite~~ according to claim 25, wherein said at least one addition is present in an amount from 0.1 wt% up to an amount which does not create deleterious oxides.

34. (Currently Amended) An electrical connector ~~composite~~ according to claim 25, wherein said coating material directly contacts a surface of said substrate material.

35-36. (Cancelled)

37. (Currently Amended) A process according to claim 39, wherein said preparing step comprises preparing a bath consisting of from ~~2.0~~ 3.0 wt% silver and the balance tin.

38. (Currently Amended) A process according to claim 39, wherein said preparing step comprises preparing a bath consisting of from ~~2.0~~ 3.0 wt% to 10 wt% silver and the balance tin.

39. (Currently Amended) A process for ~~coating a substrate material~~ forming an electrical connector comprising the steps of:

providing a substrate material to be coated;

preparing a bath consisting of ~~2.0~~ 3.0 wt% to ~~about~~ 20 wt% silver and the balance tin;

immersing said substrate material in said bath to form a non-electroplated coating layer on said substrate material, which coating layer consists of ~~more than 2.0~~ 3.0 wt% silver and the balance tin and which coating has a nanoindentation hardness in the range of 0.32 GPa to 0.41 GPa and a thickness in the range of from 0.00001" to 0.001"; ~~and~~

maintaining said bath at a temperature greater than 500°F during said immersing step; and

forming an electrical connector from the coated substrate material.

40. (Previously Presented) A process according to claim 39, wherein said maintaining step comprises maintaining said bath at a temperature of from 500°F to 900°F during said immersing step.

41. (Previously Presented) A process according to claim 39, wherein said immersing step comprises continuously passing said substrate material through said bath.

42. (Previously Presented) A process according to claim 39, wherein said immersing step comprises discontinuously passing said substrate material through said bath.

43. (Previously Presented) A process according to claim 39, wherein said immersing step comprises immersing a batch of said substrate material into said bath and maintaining said batch within said bath for a time period sufficient to form said coating.

44. (Previously Presented) A process according to claim 39, further comprising keeping said substrate material resident in said bath for a time period in the range of 0.2 seconds to 10 seconds.

45. (Previously Presented) A process according to claim 39, further comprising applying a lubricant to surfaces of said substrate material after said immersing step.

46. (Currently Amended) A process for forming ~~a non-electroplated coating on a substrate material~~ an electrical connector comprising the steps of

preparing a bath consisting of ~~2.0~~ 3.0 wt% to 20 wt% silver, at least one addition selected from the group consisting of bismuth, silicon, magnesium, iron, manganese, zinc, and antimony in an amount effective to increase coating hardness up to 5.0 wt%, and the balance tin; ~~and~~

maintaining said bath at a temperature of at least 500°F; ~~and~~

immersing ~~said~~ an electrically conductive substrate material in said bath for a resident time period of from 0.2 to 10 seconds to form a coating on the substrate material; and

forming an electrical connector from the coated substrate material.

47. (Original) A process according to claim 46, wherein said immersing step comprises continuously passing said substrate material through said bath.

48. (Original) A process according to claim 46, wherein said immersing step comprises discontinuously passing said substrate material through said bath.

49. (Original) A process according to claim 46, wherein said immersing step comprises introducing a batch of said substrate material into said bath.

50. (Original) A process according to claim 46, wherein said maintaining step comprises maintaining said bath at a temperature in the range of 500°F to 900°F.

51. (Cancelled)

52. (New) A process for forming an electrical connector comprising the steps of

preparing a bath consisting of 3.0 wt% to 20 wt% silver and the balance tin;

maintaining said bath at a temperature of at least 500°F;

immersing an electrically conductive substrate material in said bath for a resident time period of from 0.2 to 10 seconds; and

forming an electrical connector from the coated substrate material.

53. (New) A process according to claim 52, wherein said immersing step comprises continuously passing said substrate material through said bath.

54. (New) A process according to claim 52, wherein said maintaining step comprises maintaining said bath at a temperature in the range of 500°F to 900°F.

55. (New) A process according to claim 52, further comprising applying a lubricant to surfaces of said substrate material after said immersing step.